

Seeing Red I

The library staff is considering a new security system for books and other materials in the media center. The new system utilizes an adhesive electronic tag that is placed somewhere on the cover of the book. When students or faculty check out a book, the book is electronically scanned for release so the book may leave the media center without triggering the security alarm system at the doors.

The staff has determined that red is the preferred color for the security tag because it provides the greatest contrast with the exterior of the book for the greatest possible number of colors. Utilizing a high contrast color allows library staff to determine at a glance if the security tag has been removed or destroyed. However, red is ineffective as a theft deterrent for books that have red covers. The staff plans to use white security tags on books with red covers.

It is far less expensive to order security tags in larger quantities. The price per 5000 tags is \$1900.00. The price per 1000 tags is \$450.00, and the price per 100 tags is \$72.00.

In order to purchase the proper number of white security tags for the library so that costs are minimized, the head librarian has come to you to ask for an estimate of the proportion of books in the media center that have red covers. The total number of books in the media center is known.

You are assigned to a small group whose task is to determine an estimate for the proportion of books in the library that have red covers. You have 20 minutes to explore the library in order to produce this estimate. At the end of the 20 minutes, your group will have 10 minutes to create a list of issues that arose, if any, during your exploration of the

library and to agree upon your estimated proportion. A leader from each group will present this summary and the estimated proportion of red books to the class, and will explain the group's strategy for determining this value.